

Application Serial No.: 09/926,636
Amendment dated July 16, 2003
Reply to Office Action dated April 16, 2003

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 5-8, and 11 are presently active in this case, Claims 1, 5, 6, 7, and 11 having been amended and Claims 3 and 10 having been canceled by way of the present Amendment.

In the outstanding Official Action, Claims 1, 3, 5-8, 10, and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7-34486 in view of Stevens (U.S. Patent No. 5,481,441) and in view of Martin, Jr. (U.S. Patent No. 4,702,516). For the reasons discussed below, the Applicant respectfully requests the withdrawal of the obviousness rejection.

The Applicant submits that a *prima facie* case of obviousness cannot be established in the present case because (1) the references, either taken singularly or in combination, do not teach or suggest all of the claim limitations, and (2) there is no suggestion or motivation to combine the references. (See MPEP 2143.)

Claim 1 of the present application recites a cab for a construction machine that includes a reinforcing beam member of a rod-like metal pipe and of an annular shape in cross section. The reinforcing member is defined as being provided between the first and second side frame structures and in front of and in parallel relation with the cross beam member. The reinforcing beam member is further defined as being located in an obliquely upwardly projected position relative to the cross beam member when viewed by an operator in the cab. The Applicants respectfully submit that none of the cited references disclose the reinforcing beam member as recited in Claim 1 of the present application, and thus a *prima facie* case of obviousness cannot be established in the present case.

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In the current Official Action, the grounds of rejection from the previous Official Action are repeated, rejecting the claimed invention as being obvious in view of the JP 7-34486 reference combined with the Stevens reference and the Martin Jr. reference. The Official Action indicates that the claimed cab construction is described in the JP 7-34486 reference, except for a reinforcing member between the first and second frame structure, while the Stevens reference describes a light bar apparatus having a beam member (16) and the Martin Jr. reference describes a window in the front roof panel. The Official Action indicates that it would have been obvious to modify the cab of the JP 7-34486 reference to include the light bar of the Stevens reference along the upper front portion of the cab to enhance operator's visibility through the window, and further the beam member of the Stevens reference would also reinforce the upper front section in the traverse direction.

The Applicants refute the assertion that the Applicant's arguments merely attack the cited references individually. The Applicant asserts that none of the cited references teach the reinforcing beam member recited in Claim1, and thus a *prima facie* case of obviousness cannot be established based on the cited references. Claim 1 expressly recites a reinforcing beam member of a rod-like metal pipe and of an annular shape in cross section, where the reinforcing member is defined as being provided between the first and second side frame structures and in front of and in parallel relation with the cross beam member and where the reinforcing beam member is further defined as being located in an obliquely upwardly projected position relative to the cross beam member when viewed by an operator in the cab. The Official Action clearly indicates that the JP 7-34486 reference does not teach the reinforcing beam member recited in the claims of the present application. (See page 2,

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discussion item number 3 of the Official Action.) Additionally, the Martin Jr. reference is cited for the teaching of a window panel in the roof, and is not cited for the teaching of a reinforcing beam member. Furthermore, the Applicant submits that the Martin Jr. reference does not teach a reinforcing beam member as recited in Claim 1 of the present application, as is clearly evident from a review of Figure 1 of the Martin Jr. reference. The Official Action cites the Stevens reference for the teaching of a reinforcing beam member as recited in Claim 1 of the present application, and the Applicant respectfully traverses this assertion for the reasons discussed below.

Generally speaking, a cab construction is sought in which the cab includes a reinforcing beam member that can withstand falling loads. The position of the reinforcing member which is bridged transversely between the first and second side frame structures of the cab is determined depending upon the purpose of its use. Since tremendously large loads are exerted on the cab at the time of a fall, the reinforcing beam member should have sufficient strength for withstanding extremely large loads. As long as reinforcement is concerned, it suffices to bridge a sturdy structural member between the right and left side frame structures. However, actually a reinforcing material to be attached to a cab is subject to various restrictions in shape, position, structural strength, etc. Further, it should not block the view field of the operator.

Basically, the present invention concerns a cab of the type which has a front section almost entirely occupied by a front window and a top window in the roof to ensure the unobstructed visibility in forward and obliquely upward directions. A narrow cross beam member is bridged in a boundary region between the front and top windows. Therefore, the

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provision of a reinforcing beam member which is located in an obliquely upwardly projected position relative to the cross beam member would preferably not block the view field through the front and top windows any further.

Besides, from the standpoint of supporting falling loads, it is an advantageous arrangement to locate the reinforcing member along the cross beam of the cab.

By the way, it is advantageous to employ a reinforcing beam member to prevent the cab from collapsing even when it is subjected to a tremendously large load like a falling load. On the other hand, the reinforcing member should have a strong sectional shape that is preferably not obstructive to the operator's view field. Besides, the reinforcing beam member to be connected to the right and left side sections is preferably light in weight. A falling load acts on the cab in a limited direction. More specifically, a falling load acts in a direction to compress the cab from the first side section with a door toward the second side section on the side of the working equipments. Considering this, the reinforcing beam member is located parallel with the cross beam member of the cab, that is, in a direction in which the maximum compressive force is likely exerted at the time of a fall. A reinforcing member of a given material shows the greatest strength against such compressive forces when it is in the shape of a rod having an annular shape in cross section.

For the reasons stated above and as recited in amended Claim 1, the reinforcing beam member should desirably be in the form of a metal pipe with an annular cross-section and located substantially parallel with the cross beam member of the cab such that the reinforcing beam member can preferably sustain large falling loads effectively despite a small cross-

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sectional area which can be mostly concealed behind the cross beam without presenting itself as an obstacle to the operator's view field.

The Applicant respectfully refutes the assertion that the light bar housing (12) of the Stevens reference would reinforce the upper front section in the transverse direction. The light bar housing (12) in the Stevens reference is square in cross-sectional shape and the Applicant submits that the light bar housing (12) cannot function as a reinforcing beam member because the light bar housing (12) is provided with a slot (21) longitudinally in its bottom portion (20), as depicted in Figure 4. Therefore, the light bar housing of the Stevens reference is suitable for a mounting lightings, but is not suitable for sustaining axial compressive forces of falling load because it is deformed too easily to serve as a reinforcing beam member. If the light bar housing of the Stevens reference were to be used for sustaining a falling load, it would have to be structurally modified, which there is no support for in the Stevens reference or the other cited references. Such a modification might require a much larger size and thickness for the light bar housing (12), which would block the view field of the operator to a detrimental degree and would add detrimental weight to the overall cab design, and might require a structural modification to remove the slot (21). The cited references do not provide any teaching for such modifications. Additionally, such modifications would be based upon improper hindsight considerations in view of the teachings of the present invention.

Thus, the Applicant respectfully submits that the present invention could not have been achieved by combining teachings of the cited references, i.e., by modifying the basic cab construction described in the JP 7-34486 reference with the horizontal light bar housing

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in the Stevens reference and the roof window in the Martin Jr. reference, since none of these references teaches the reinforcing beam member as expressly recited in Claim 1 of the present application. These references are all remote from the concept of the Applicant's invention, i.e., reinforcement of a cab having front and top windows without sacrificing the operator's visibility.

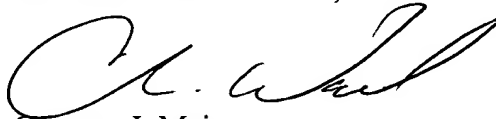
Accordingly, the Applicant respectfully requests the withdrawal of the obviousness rejection of Claim 1.

Claims 5-8 and 11 are considered allowable for the reasons advanced for Claim 1 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed, taught, nor suggested by the applied references when those features are considered within the context of Claim 1.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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